

IN THE CLAIMS

The following list is of the pending claims:

Listing of the Claims

1-8. (Canceled)

9. (Previously presented) A multi-domain, wide viewing angle liquid-crystal display, comprising:

- a bottom substrate having a first surface;

- a first transparent conductive layer disposed over said first surface of said bottom substrate;

- a top substrate having a second surface;

- a color filter layer disposed over said second surface of said top substrate;

- a second transparent conductive layer disposed over said color filter;

- a first dry deposited layer over said first transparent conductive layer;

- a second dry deposited layer over said second transparent conductive layer; said second dry deposited layer being spaced adjacent to and facing said first dry deposited layer;

- a plurality of uniformly sized transparent or nontransparent spacers distributed within said space; and

- a liquid-crystal material disposed in the space therebetween;

- wherein each of said first dry deposited layer and said second dry deposited layer is divided into a plurality of pixels each having a boundary and at least two domains; wherein each of said multi-domain, dry deposited layers is obtained by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field methods;

- wherein said dry deposited layers are exposed to at least a first particle

beam treatment and a second particle beam treatment;

wherein a direction of said first particle beam treatment with respect to said dry deposited layers is different than a direction of said second particle beam treatment with respect to said dry deposited layers; and

wherein said liquid-crystal display is operable in the in-plane switching mode.

10, (Cancelled)

11 (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 40, wherein said mechanical mask method comprises: depositing a material on a substrate to form a transparent dry deposited layer; bombarding said dry deposited layer with said first particle beam treatment; masking said dry deposited layer into first domain areas and second domain

areas of the dry deposited layer with a mask; and

selectively bombarding said dry deposited layer with said second particle beam treatment through said mask.

12. (Original) The multi-domain, wide viewing angle liquid-crystal display of claim

11, wherein said material is selected from the group consisting of: hydrogenated diamond-like carbon, amorphous hydrogenated silicon, silicon carbide (SiC), silicon dioxide (SiO₂), glass, silicon nitride (Si₃N₄), alumina (Al₂O₃), cerium(IV) oxide (CeO₂), tin oxide (SnO₂), zinc titanate (ZnTiO₂) and a combination thereof.

13. (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 11, wherein said first particle beam treatment and said second particle beam treatment is provided from a source of an ion beam selected from the group consisting of: argon, nitrogen, oxygen, and a mixture thereof.

14-36. (Canceled)

37. (Previously presented) A multi-domain, wide viewing angle liquid-crystal display, comprising:

- a bottom substrate having a first surface;

- a first transparent conductive layer disposed over said first surface of said bottom substrate;

- a top substrate having a second surface;

- a color filter layer disposed over said second surface of said top substrate;

- a second transparent conductive layer disposed over said color filter;

- a first dry deposited layer over said first transparent conductive layer;

- a second dry deposited layer over said second transparent conductive layer; said second dry deposited layer being spaced adjacent to and facing said first dry deposited layer;

- a plurality of uniformly sized transparent or non-transparent spacers distributed within said space; and

- a liquid-crystal material disposed in the space therebetween;

- wherein each of said first dry deposited layer and said second dry deposited layer is divided into a plurality of pixels each having a boundary and at least two domains; wherein each of said multi-domain, dry deposited layers is obtained by a method selected from the group consisting of: mechanical mask, photo-resist, UV treatment, and ridge and fringe field methods;

- wherein said dry deposited layers are exposed to at least a first particle beam treatment and a second particle beam treatment;

- wherein a direction of said first particle beam treatment with respect to said dry deposited layers is different than a direction of said second particle beam treatment with respect to said dry deposited layer;

- wherein said multi-domain, liquid-crystal display is operable in the in-plane switching mode; and

- wherein said multi-domain, liquid-crystal display has a wide viewing angle.

38 and 39. (Canceled)

40. (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 9, wherein said domains of said first and said second dry deposited layers are obtained by said mechanical mask method.

41. (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 9, wherein said first particle beam treatment aligns first and second ones of the domains of at least one of said pixels in a first direction, and wherein said second particle beam treatment aligns said first domain in a second direction.

42. (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 41, wherein said second particle beam treatment overwrites said first direction of said first domain with said second direction.

43. (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 37, wherein said first particle beam treatment aligns first and second ones of the domains of at least one of said pixels in a first direction, and wherein said second particle beam treatment aligns said first domain in a second direction.

44. (Previously presented) The multi-domain, wide viewing angle liquid-crystal display of claim 43, wherein said second particle beam treatment overwrites said first direction of said first domain with said second direction.